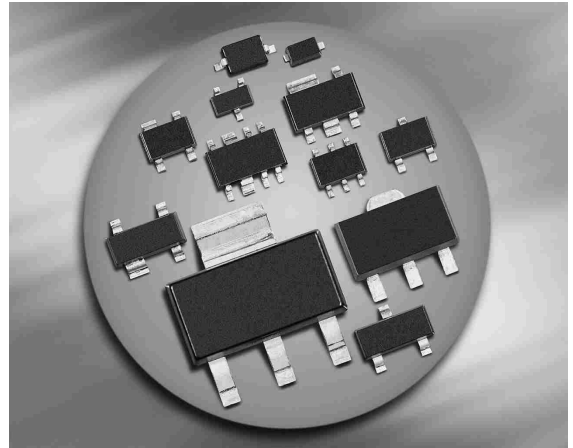
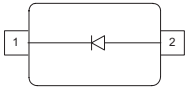


Silicon Tuning Diode

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- For control elements as TCXOS and VCXOS
- High capacitance ratio and good C-V linearity


BBY59-02V


Type	Package	Configuration	L_S (nH)	Marking
BBY59-02V	SC79	single	0.6	RR

Maximum Ratings

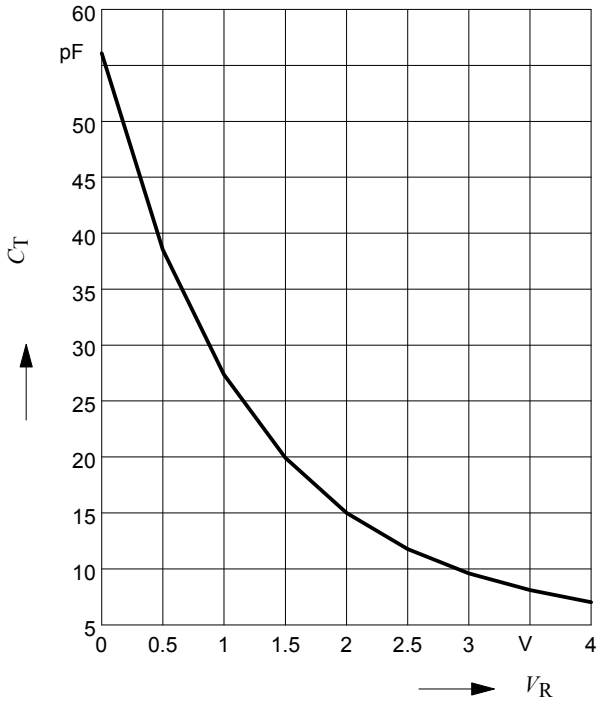
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	15	V
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
$V_R = 10\text{ V}$		-	-	20	
$V_R = 10\text{ V}, T_A = 85^\circ\text{C}$		-	-	100	
AC Characteristics					
Diode capacitance	C_T				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		26,6	27.8	29	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		13.6	15.3	17	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		8,4	9.5	10.9	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		6,1	6,95	7,8	
Capacitance ratio	C_{T1}/C_{T4}	3,4	4	4,6	
$V_R = 1\text{ V}, V_R = 4\text{ V}$					
Series resistance	r_S	-	0.45	0.7	Ω
$V_R = 1\text{ V}, f = 470\text{ MHz}$					

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode capacitance $TC_C = f(V_R)$

